

Efficacy & predictive factors of response to immunotherapy in pituitary carcinomas & aggressive pituitary tumors: a French cohort study

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CONTEXT: After temozolomide failure, no evidence-based treatment is available for pituitary carcinomas (PCs) & aggressive pituitary tumors (APTs). So far, only 12 cases treated with immune-checkpoint inhibitors (ICIs) have been published, showing encouraging efficacy. Predictive factors of response are lacking.

OBJECTIVE: assess the real-life efficacy and predictors of response to ICIs in PCs and APTs.

MATERIAL & METHODS

- Multicentric, retrospective, observational cohort study, including all PCs and APTs treated with ICIs in France up to March 2022.
- PD-L1 immunohistochemistry and CD8+ T cell infiltration were evaluated centrally.

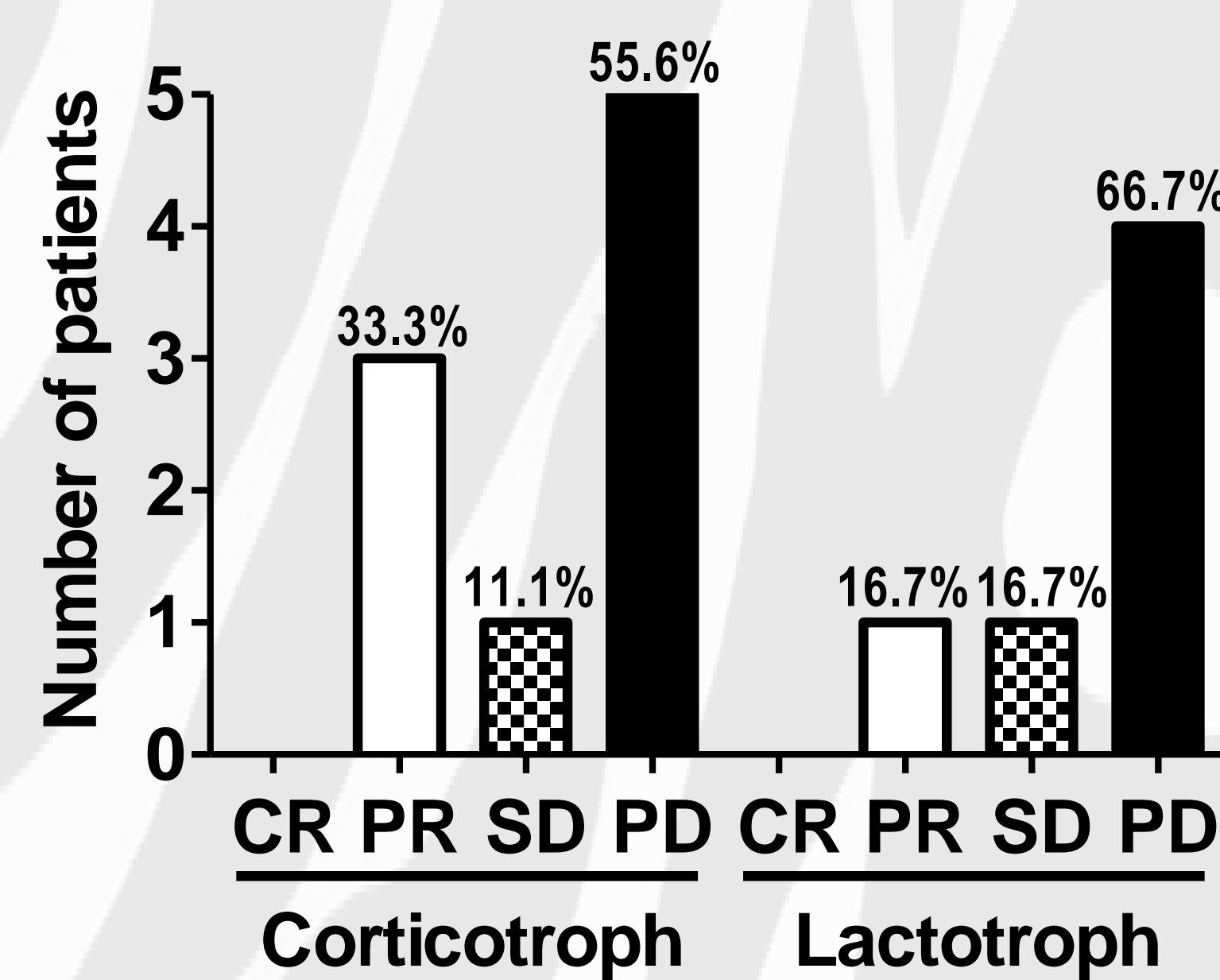
RESULTS

I. Treated cases

	Corticotroph 9 cases	Lactotroph 6 cases
Sex		
Male	5 (55.6%)	5 (83.3%)
Female	4 (44.4%)	1 (16.7%)
Age at treatment	31-72	39-75
Tumor type		
PC	4 (44.4%)	2 (33.3%)
APT	5 (55.6%)	4 (66.7%)

- all patients had previously received multimodal treatment, including temozolomide

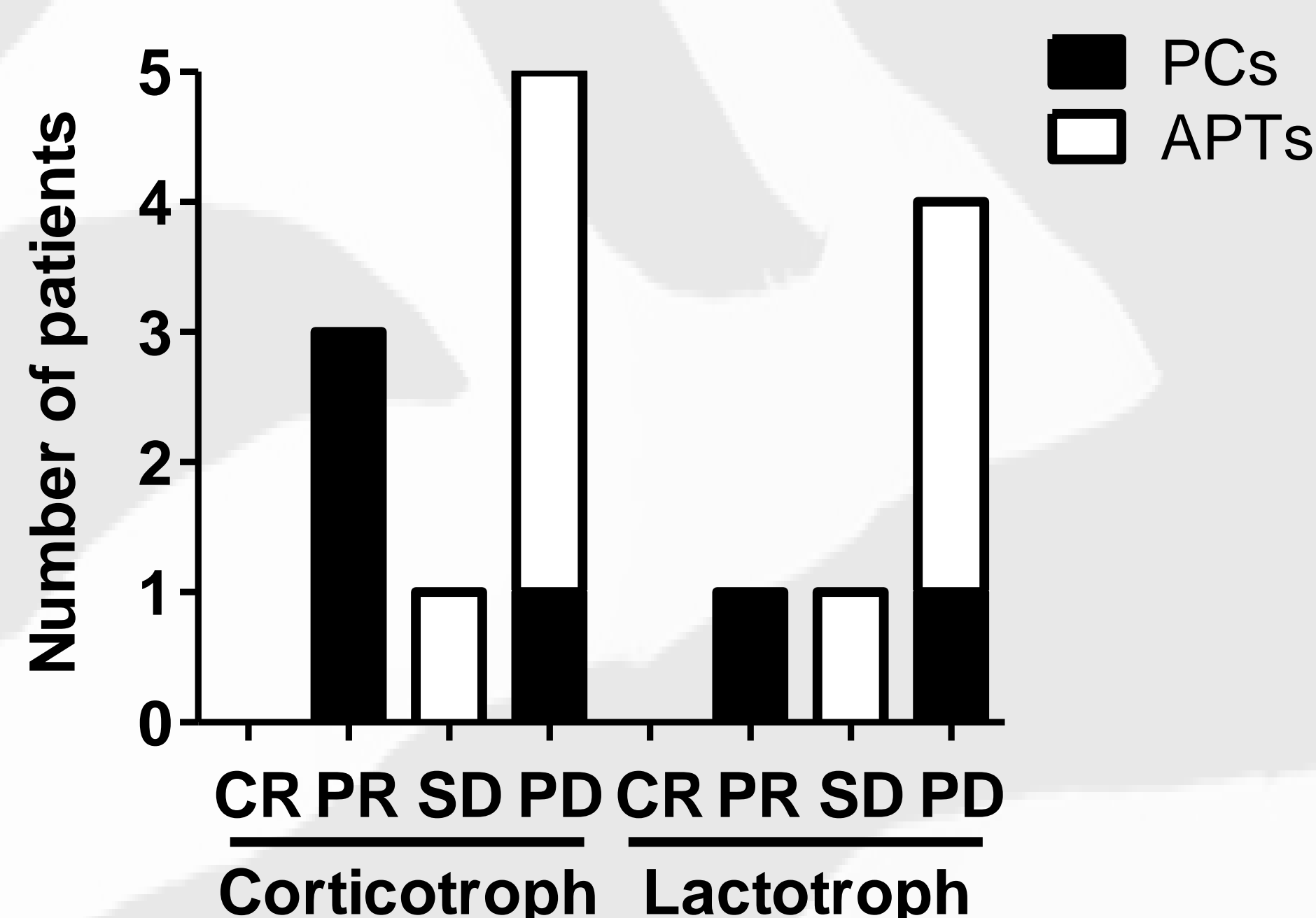
II. Tumor response to ICIs



- Lower real-life efficacy of ICIs compared to previously published data.
- Slightly better tumor response of corticotroph compared to lactotroph cases.

II. Predictive factors of response – tumor type (PC vs APT)

Tumor response to ICIs

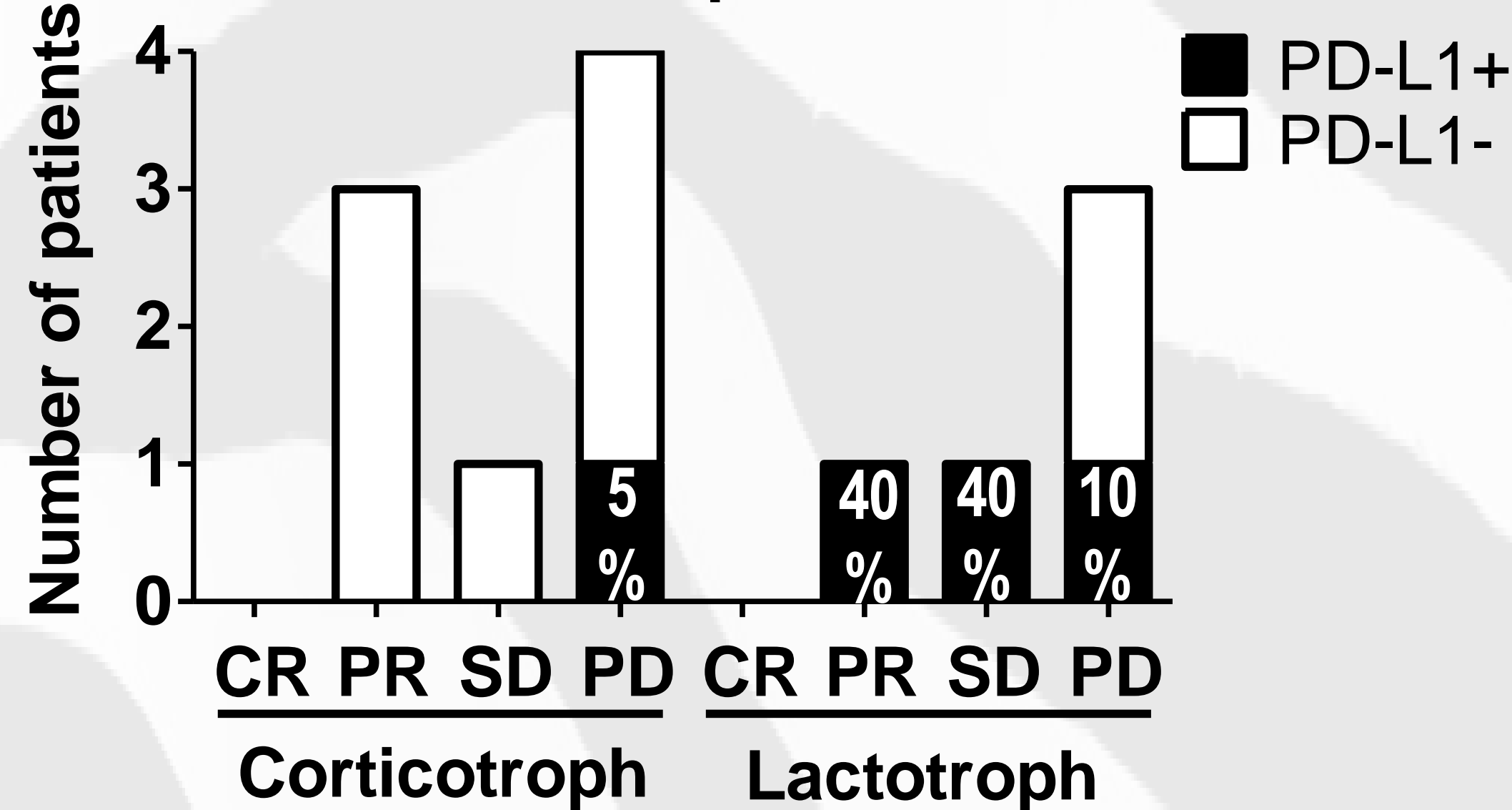


PCs responded far better than APTs!

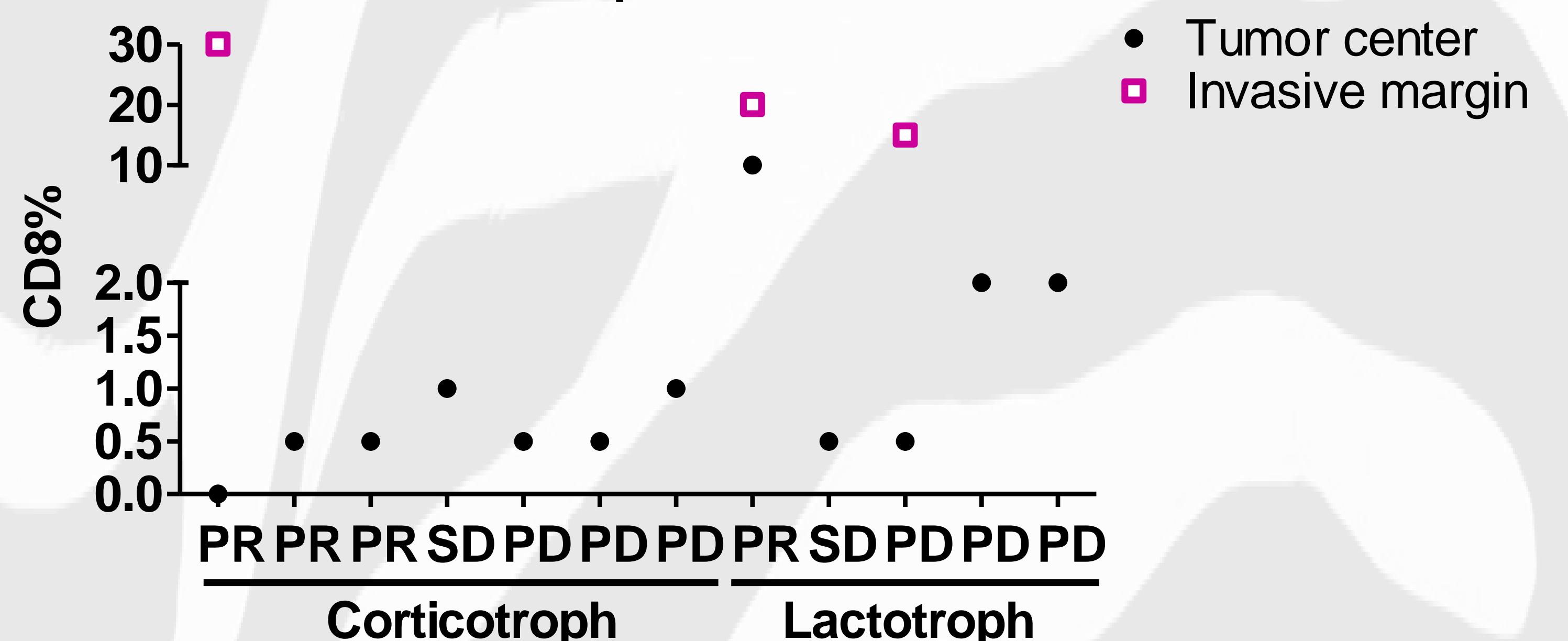
- An extension work-up is needed to confirm or exclude metastases before starting ICIs.
- For PCs (especially corticotroph), ICIs are a reasonable 2nd line therapeutic option after temozolomide.
- Underlying biological differences between PCs and APTs?

III. Predictive factors of response – PD-L1 staining & CD8+ T cell infiltration

Tumor response to ICIs



Tumor response to ICIs



Negative PD-L1 staining & very low CD8+ T cell infiltration in the tumor center should not preclude ICI use in corticotroph PCs!

Further validation is warranted in lactotroph tumors.

CONCLUSIONS

- 1 Tumor type (PC versus APT) is a major predictor of response to ICIs.
- 2 After temozolomide failure, ICIs should be proposed for PCs, especially for corticotroph PCs, being the best currently available option.
- 3 Negative PD-L1 staining & very low CD8+ T cell infiltration in the tumor center should not preclude ICI administration in corticotroph carcinomas.